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***MarineFisheries* Advisory**
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Update on White Shark in Coastal Waters

On Tuesday September 21, a fisherman reported the presence of a large shark in a coastal embayment within the Elizabeth Islands off southeastern Massachusetts.

On Thursday September 23, DMF Marine Biologist and shark specialist, Greg Skomal, identified the shark as a female white shark (*Carcharodon carcharias*) estimated at 14 feet and 1,750 lbs.

Greg took the opportunity to attach an archival tag to the shark that records environmental data that will reveal valuable movement patterns and habitat use. (For more information on the tag see http://www.wildlifecomputers.com/Satellite%20Tags/PAT.htm. Little is known about the migrations of this species in the Atlantic, and this data will be invaluable.

White Sharks, commonly known as a "Great White", white sharks are more common in deeper waters of the continental shelf but are known to enter shallower coastal waters. Because white sharks are rare, any sighting of this species in coastal waters is considered unusual. This multi-day occurrence therefore is an extraordinary event.

White sharks are common to temperate waters throughout the worlds' oceans and the annual occurrence of a solitary individual in Massachusetts waters is not surprising. For more information on white shark biology, see http://www.nmfs.noaa.gov/sharks/FS_white.htm.

These tags have been used successfully in the study of large tunas and basking sharks. Programmed to release in April, the tag will surface upon release and begin transmission of 6 months of recorded data via a satellite. This tag is not designed for tracking the shark locally or on a real-time basis because this tag remains below the water's surface and consequently cannot communicate with a satellite through water column. Only when it parts off from the fish will it rise to the surface to transmit the habitat data.

The inlet measures approximately 1,200 feet in length and ranges from 100 to 300 feet across. Depth averages about 18-20 feet in the center of the channel. On a daily basis *Marinefisheries* Biologists and Environmental Police Officers are monitoring the shark visually and noting its movements within the constricted range of the inlet and channel. The shark is swimming freely within the channel and showing no signs of aggressive behavior or stress.

Skomal theorized that the shark may have entered the inlet during a period of high water, but is deterred from exiting the inlet by the shallow water level at the outlet, which is only about 3 feet at low tide. During high tides, the water level rises an additional 2-5 feet depending on the moon phase. Everyone involved hope the fish departs the area on its own without the need for intervention of any kind. *Marinefisheries* Biologists are consulting with international experts on potential strategies that could be employed if the shark remains in the area over the next few weeks.

For the safety of the shark and the public, the Massachusetts Environmental Police have restricted access to the area. This area surrounding the inlet is in a remote privately- owned portion of the Elizabeth Islands. Public access to this area is not allowed. Moreover, vessel access is being restricted. The public is urged to stay away from this area for public safety reasons as well as the protection of the shark. State and federal rules prohibit the taking of white sharks. Anyone attempting to take or approach this shark will be prosecuted.

The white shark is an apex predator with no known predators of its own, except humans. As with much of the life history of white sharks, little is known about their reproductive biology. Most sharks display slow growth and small brood sizes that can lead to disproportionate impacts from fishing, leading federal and state fisheries managers to provide suitable conservation measures for these fish.

For more information, images, and video clips the DMF web site: http://www.mass.gov/marinefisheries